



9491-013-27.ST25

SEQUENCE LISTING

RECEIVED

SEP 16 2003

TECH CENTER 1600/2900

<110> Adams, Camellia W.
Carter, Paul J.
Fendly, Brian M.
Gurney, Austin L.

<120> Agonist Antibodies

<130> 9491-013-27

<140> US 09/138,091

<141> 1998-08-21

<150> US 60/056,736

<151> 1997-08-22

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Ile Met Tyr Pro Gly Asn Ser Asp Thr Arg His Asn
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ccg tcc ttc gaa gac cag gtc acc atg tca
Pro Ser Phe Glu Asp Gln Val Thr Met Ser
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66

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gtc tcc 42
 Val Ser
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 tac att agt agt agt ggt agt acc ata tac tac gca 36
 Tyr Ile Ser Ser Ser Gly Ser Thr Ile Tyr Tyr Ala
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gac tct gtg aag ggc cga ttc acc atc tcc 66
 Asp Ser Val Lys Gly Arg Phe Thr Ile Ser

.15

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22

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<213> Homo sapiens

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Tyr Ile Ser Ser Ser Gly Ser Thr Ile Tyr Tyr Ala Asp Ser Val
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Lys Gly Arg Phe Thr Ile Ser
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Trp Ser Gly Glu Asp Ala Phe Asp Ile
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Arg Ala Ser Glu Gly Ile Tyr His Trp Leu Ala
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Lys Ala Ser Ser Leu Ala Ser
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 Gln Gln Tyr Ser Asn Tyr Pro Leu Thr
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36

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66

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 Asp Arg Gly Ser Tyr Gly Met Asp Val
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 Gly Ile Ser Phe Asp Gly Arg Ser Glu Tyr Tyr Ala
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36

gac tcc gtg cag ggc cga ttc acc atc tcc
 Asp Ser Val Gln Gly Arg Phe Thr Ile Ser
 15 20 22

66

<210> 32
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 1 5 10 15

Gln Gly Arg Phe Thr Ile Ser

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 1 5

24

<210> 34
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<400> 34
 Gly Ala His Tyr Gly Phe Asp Ile
 1 5

<210> 35
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33

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<400> 36
 agc cat aac atg aac
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15

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<210> 38
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<400> 38
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36

gac tca gtg aag ggc cga ttc acc atc tcc
 Asp Ser Val Lys Gly Arg Phe Thr Ile Ser
 15 20

66

<210> 39
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<400> 39
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 Lys Gly Arg Phe Thr Ile Ser
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<210> 40
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 Asp Arg Gly Ser Thr Gly Met Asp Val
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<210> 42
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 <212> DNA
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 Ser Tyr Tyr Trp Ser
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<210> 44
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 <212> DNA
 <213> Homo sapiens

<400> 44.
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tcc ctc aag agt cga gtc acc ata tca
 Ser Leu Lys Ser Arg Val Thr Ile Ser
 15 20 63

<210> 45
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 <212> PRT
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<400> 45
 Tyr Ile Tyr Tyr Ser Gly Ser Thr Asn Tyr Asn Pro Ser Leu Lys
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Ser Arg Val Thr Ile Ser
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<210> 46
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<210> 47
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 <212> PRT
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<400> 47
 Gly Arg Tyr Phe Asp Val
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<210> 48
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 <212> DNA
 <213> Homo sapiens

<400> 48
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 1 5 10 36

gtc tcc
 Val Ser
 14 42

<210> 49
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 <212> PRT
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<400> 49
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<210> 50
 <211> 21
 <212> DNA
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 Glu Gly Ser Lys Arg Pro Ser
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 Glu Gly Ser Lys Arg Pro Ser
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<210> 52
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 agc tca tat aca acc agg agc act cga gtt 30
 Ser Ser Tyr Thr Thr Arg Ser Thr Arg Val
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<210> 53
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<400> 53
 Ser Ser Tyr Thr Thr Arg Ser Thr Arg Val
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<210> 54
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<220>
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 agcggataac aatttcacac agg 23

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<211> 44

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<223> Fab'2 antibody fragment

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Cys Pro Pro Cys Ala Pro Glu Leu Leu Gly Gly Arg Met Lys Gln
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Leu Glu Asp Lys Val Glu Glu Leu Leu Ser Lys Asn Tyr His Leu
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Glu Asn Glu Val Ala Arg Leu Lys Lys Leu Val Gly Glu Arg
35 40

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<211> 43

<212> DNA

<213> Artificial Sequence

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<212> DNA

<213> Artificial Sequence

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<400> 58

atgatgatgt gccacggtcc gtttgatctc cagttcggtc

40

<210> 59

<211> 43

<212> DNA

<213> Artificial Sequence

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<400> 59

gcttctgcgg ccacacaggc ctacgcttcc tatgtgctga ctc

43

<210> 60

<211> 40

<212> DNA

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ccttctctct ttaggttggc caaggacggt cagcttggtc

40

<210> 61

<211> 43

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR primer

<400> 61

gcttctgcgg ccacacaggc ctacgctcag tctgtgctga etc

43

<210> 62

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cattctacaa acgcgtacgc tcaggtgcag ctggtgcag

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<210> 63

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<212> DNA

<213> Artificial Sequence

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<400> 63

gtaaatgtat gggcccttgg tggaggaggc actcgagacg gtgac

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<210> 64

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39

<210> 65

<211> 39

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR primer

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 <210> 66
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 <220>
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 <211> 39
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 <210> 68
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 <220>
 <223> PCR primer

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 <210> 69
 <211> 42
 <212> DNA
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 <220>
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 Met Ala Asp Pro Asn Arg Phe Arg Gly Lys Asp Leu
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 <212> PRT
 <213> Artificial Sequence

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 Met Gly Gly Ala Ala Ala Arg Leu Gly Ala Val Ile Leu Phe Val
 1 5 10 15
 Val Ile Val Gly Leu His Gly Val Arg Gly Lys Tyr Ala Leu Ala
 20 25 30
 Asp Ala Ser Leu Lys Met Ala Asp Pro Asn Arg Phe Arg Gly Lys
 35 40 45
 Asp Leu Pro Val Leu Asp Gln Leu Leu Glu Gly Gly Ala Ala His
 50 55 60
 Tyr Ala Leu Leu Pro Gly
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 <213> Artificial Sequence

<220>
 <223> single chain antibody (scFv) fragments

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 Met Ala Gln Val Gln Leu Gln Glu Ser Gly Gly Glu Met Lys Lys Pro
 1 5 10 15
 Gly Glu Ser Leu Lys Ile Ser Cys Lys Gly Tyr Gly Tyr Ser Phe Ala
 20 25 30
 Thr Ser Trp Ile Gly Trp Val Arg Gln Met Pro Gly Arg Gly Leu Glu
 35 40 45
 Trp Met Ala Ile Met Tyr Pro Gly Asn Ser Asp Thr Arg His Asn Pro
 50 55 60
 Ser Phe Glu Asp Gln Val Thr Met Ser Ala Asp Thr Ser Ile Asn Thr
 65 70 75 80
 Ala Tyr Leu Gln Trp Ser Ser Leu Lys Ala Ser Asp Thr Ala Met Tyr
 85 90 95
 Tyr Cys Ala Arg Ala Gly Val Ala Gly Ala Phe Asp Leu Trp Gly
 100 105 110
 Lys Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
 115 120 125
 Gly Gly Ser Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Ala
 130 135 140
 Ser Val Ser Gly Ser Pro Gly Gln Ser Ile Thr Ile Ser Cys Thr Gly
 145 150 155 160
 Thr Ser Ser Gly Val Gly Gly Tyr Asn Tyr Val Ser Trp Tyr Gln Gln
 165 170 175
 His Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Gly Asn Ser Asn Arg
 180 185 190
 Pro Ser Gly Val Pro Asp Arg Phe Ser Ala Ser Lys Ser Gly Asn Thr
 195 200 205

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Ala Ser Leu Thr Ile Ser Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr
 210      215      220
Phe Cys Ser Thr Tyr Ala Pro Pro Gly Ile Ile Met Phe Gly Gly Gly
225      230      235      240
Thr Lys Leu Thr Val Leu Gly Ala Ala
      245

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<210> 73
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<213> Artificial Sequence

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<220>
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Met Ala Glu Val Gln Leu Val Gln Ser Gly Gly Gly Leu Val Lys Pro
 1      5      10      15
Gly Gly Ser Leu Arg Leu Ser Cys Ala Ser Gly Phe Thr Phe Ser
 20      25      30
Asp Tyr Tyr Met Ser Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu Glu
 35      40      45
Trp Val Ser Tyr Ile Ser Ser Ser Gly Ser Thr Ile Tyr Tyr Ala Asp
 50      55      60
Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr
 65      70      75      80
Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr
 85      90      95
Tyr Cys Ala Arg Trp Ser Gly Glu Asp Ala Phe Asp Ile Trp Gly Gln
 100     105     110
Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Ser Gly Gly Gly
 115     120     125
Gly Ser Gly Gly Gly Gly Ser Asp Ile Val Met Thr Gln Ser Pro Ser
 130     135     140
Thr Leu Ser Ala Ser Val Gly Asp Arg Val Ala Ile Thr Cys Arg Ala
 145     150     155     160
Ser Glu Gly Ile Tyr His Trp Leu Ala Trp Tyr Gln Gln Lys Pro Gly
 165     170     175
Lys Ala Pro Lys Leu Leu Ile Tyr Lys Ala Ser Ser Leu Ala Ser Gly
 180     185     190
Ala Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Ala Asp Phe Thr Leu
 195     200     205
Thr Ile Ser Ser Leu Gln Pro Asp Asp Phe Ala Thr Tyr Tyr Cys Gln
 210     215     220
Gln Tyr Ser Asn Tyr Pro Leu Thr Phe Gly Gly Gly Thr Lys Leu Glu
 225     230     235     240
Val Lys Arg Ala Ala
      245

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<210> 74
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<220>
<223> single chain antibody (scFv) fragments

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<400> 74.

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 1      5      10      15
Gly Gly Ser Leu Ser Leu Ser Cys Ala Val Ser Gly Ile Thr Leu Arg
 20      25      30
Thr Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
 35      40      45
Trp Val Ala Gly Ile Ser Phe Asp Gly Arg Ser Glu Tyr Tyr Ala Asp
 50      55      60
Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr
 65      70      75      80
Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr
 85      90      95
Tyr Cys Ala Arg Asp Arg Gly Ser Tyr Gly Met Asp Val Trp Gly Arg
 100     105     110
Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Ser Gly Gly Gly
 115     120     125
Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser
 130     135     140
Thr Leu Ser Ala Ser Ile Gly Asp Arg Val Thr Ile Thr Cys Arg Ala
 145     150     155     160
Ser Glu Gly Ile Tyr His Trp Leu Ala Trp Tyr Gln Gln Lys Pro Gly
 165     170     175
Lys Ala Pro Lys Leu Leu Ile Tyr Lys Ala Ser Ser Leu Ala Ser Gly
 180     185     190
Ala Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu
 195     200     205
Thr Ile Ser Ser Leu Gln Pro Asp Asp Phe Ala Thr Tyr Tyr Cys Gln
 210     215     220
Gln Tyr Ser Asn Tyr Pro Leu Thr Phe Gly Gly Gly Thr Lys Leu Glu
 225     230     235     240
Ile Leu Arg Ala Ala
 245

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<210> 75

<211> 244

<212> PRT

<213> Artificial Sequence

<220>

<223> single chain antibody (scFv) fragments

<400> 75

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Met Ala Gln Val Gln Leu Val Gln Ser Gly Gly Gly Leu Val Arg Pro
 1      5      10      15
Gly Gly Ser Leu Ser Leu Ser Cys Ala Val Ser Gly Ile Thr Leu Arg
 20      25      30
Thr Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
 35      40      45
Trp Val Ala Gly Ile Ser Phe Asp Gly Arg Ser Glu Tyr Tyr Ala Asp
 50      55      60
Ser Val Gln Gly Arg Phe Thr Ile Ser Arg Asp Ser Ser Lys Asn Thr
 65      70      75      80
Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr
 85      90      95
Tyr Cys Ala Arg Gly Ala His Tyr Gly Phe Asp Ile Trp Gly Gln Gly
 100     105     110
Thr Met Val Thr Val Ser Ser Gly Gly Gly Gly Thr Gly Gly Gly Gly

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[illegible]

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<210> 76
<211> 245
<212> PRT
<213> Artificial Sequence
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<220>
<223> single chain antibody (scFv) fragments

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<221> VARIANT
<222> 208
<223> Xaa = Any Amino Acid
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Gly	Gly	Ser	Leu	Arg	Leu	Ser	Cys	Ala	Ser	Gly	Phe	Thr	Phe	Ser	
			20					25					30		
Ser	His	Asn	Met	Asn	Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Gly	Leu	Glu
		35					40					45			
Trp	Val	Ser	Ser	Ile	Ser	Ser	Ser	Ser	Ser	Tyr	Ile	Tyr	Tyr	Ala	Asp
	50				55						60				
Ser	Val	Lys	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn	Ala	Lys	Asn	Ser
65					70					75					80
Leu	Tyr	Leu	Gln	Met	Asn	Ser	Leu	Arg	Ala	Glu	Asp	Thr	Ala	Val	Tyr
				85					90					95	
Tyr	Cys	Ala	Arg	Asp	Arg	Gly	Ser	Thr	Gly	Met	Asp	Val	Trp	Gly	Arg
			100					105					110		
Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly
		115					120					125			
Gly	Ser	Gly	Gly	Gly	Gly	Ser	Asp	Ile	Gln	Met	Thr	Gln	Ser	Pro	Ser
		130				135					140				
Thr	Leu	Ser	Ala	Ser	Ile	Gly	Asp	Arg	Val	Thr	Ile	Thr	Cys	Arg	Ala
145					150					155					160
Ser	Glu	Gly	Ile	Tyr	His	Trp	Leu	Ala	Trp	Tyr	Gln	Gln	Lys	Pro	Gly
				165					170					175	
Lys	Ala	Pro	Lys	Leu	Leu	Ile	Tyr	Lys	Ala	Ser	Ser	Leu	Ala	Ser	Gly
			180					185					190		
Ala	Pro	Ser	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Xaa
		195					200					205			
Thr	Ile	Ser	Ser	Leu	Gln	Pro	Asp	Asp	Phe	Ala	Thr	Tyr	Tyr	Cys	Gln

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      210      215      220
Gln Tyr Ser Asn Tyr Pro Leu Thr Phe Gly Gly Gly Thr Lys Leu Glu
225      230      235      240
Ile Lys Arg Ala Ala
      245

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<210> 77
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<212> PRT
<213> Artificial Sequence

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<220>
<223> single chain antibody (scFv) fragments

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<400> 77
Met Ala Gln Val Gln Leu Gln Gln Ser Gly Pro Gly Leu Val Lys Pro
 1      5      10      15
Ser Glu Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Asp Ser Ile Ser
      20      25      30
Ser Tyr Tyr Trp Ser Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu
      35      40      45
Trp Ile Gly Tyr Ile Tyr Tyr Ser Gly Ser Thr Asn Tyr Asn Pro Ser
      50      55      60
Leu Lys Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Ser Gln Phe
      65      70      75      80
Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr
      85      90      95
Cys Ala Arg Gly Arg Tyr Phe Asp Val Trp Gly Arg Gly Thr Met Val
      100      105      110
Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
      115      120      125
Gly Gly Ser Ser Tyr Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ser
      130      135      140
Pro Gly Gln Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp Val
      145      150      155      160
Gly Gly Tyr Asn Tyr Val Ser Trp Tyr Gln Gln His Pro Gly Lys Ala
      165      170      175
Pro Lys Leu Met Ile Tyr Glu Gly Ser Lys Arg Pro Ser Gly Val Ser
      180      185      190
Asn Arg Phe Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr Ile
      195      200      205
Ser Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Ser Ser Tyr
      210      215      220
Thr Thr Arg Ser Thr Arg Val Phe Gly Gly Gly Thr Lys Leu Thr Val
      225      230      235      240
Leu Gly Ala Ala

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